



GARY R. HERBERT  
*Governor*  
GREG BELL  
*Lieutenant Governor*

# State of Utah

## DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER  
*Executive Director*

Division of Water Rights  
KENT L. JONES  
*State Engineer/Division Director*

February 21, 2013

RE: Stream Channel Alteration No. 13-93-04SA  
Duck Fork Creek  
Utah Division of Wildlife Resources

Attached is a copy of an application to alter a natural stream, which has been submitted to the Division of Water Rights (Division) for processing.

In processing this application, the Division will work to determine if the project will:

- Unreasonably or unnecessarily affect any recreational use or the natural stream environment;
- Unreasonably or unnecessarily endanger aquatic wildlife;
- Unreasonably or unnecessarily diminish the natural channel's ability to convey high flows; or
- Impair vested water rights.

Any decision made regarding this application will be based exclusively on these four criteria. If you have information regarding these four criteria that will aid the Division in making a determination and subsequent decision, please submit this information, in writing, to this office prior to **March 13, 2013**. For questions or comments pertaining to all other aspects of the project, please contact the applicant listed on the front page of the application directly.

Sincerely,

*Tiffany Gonzales*  
for Daren Rasmussen, P.G.  
Stream Alteration Specialist

Pc: Richard Clark - EPA  
Corps of Engineers  
Supervisor - U. S. Fish & Wildlife  
Marc Stilson - Regional Engineer  
Chris Wood - Regional Wildlife Habitat Manager  
Carmen Bailey - Aquatic Habitat Coordinator  
Bill Damery - DEQ, Water Quality Division  
Laura Ault - Forestry Fire & State Lands  
Kelly Beck - RDCC Coordinator  
State Parks & Recreation  
Lori Hunsaker - State History  
W. D. Robinson - Department of Agriculture  
Judy Watanabe - CEM

Rec. by MG  
 Fee Rec. 500  
 Receipt # 13-06547

**JOINT PERMIT APPLICATION FORM**  
**U.S ARMY CORPS OF ENGINEERS – FOR SECTIONS 404 AND 10**  
**UTAH STATE ENGINEER'S OFFICE – FOR NATURAL STREAM CHANNELS**

Application Number 13-93-04SA  
 (assigned by): Corps State Engineer

Applicant's Name (Last, First M.I. or entity if not an individual)	Authorized Applicant Representative (if any)	Applicant's Telephone Number and Area Code 435-613-3706
Utah Division of Wildlife Resources	Justin Hart	Representative's Telephone Number and Area Code 435-613-3706

Applicant's Address (Street, RFD, Box, Number, City, State, Zip)  
 319 N. Carbonville Rd., Ste A, Price, UT, 84501

<b>PROJECT LOCATION</b>				
Quarter Section(s) <b>S4 SWSE</b>	Section <b>10</b>	Township <b>19S</b>	Range <b>4E</b>	Base & Meridian <b>SL B&amp;M</b>
County <b>Sanpete</b>	Associated Watercourse or Watercourse to be Altered <b>Duck Fork Creek</b>		Check one: <input type="checkbox"/> Within City Limits <input checked="" type="checkbox"/> Outside City Limits List town or nearest town: <b>Ferron, UT</b>	

Project location or address:

**Duck Fork Creek, approximately 450 upstream from confluence with Duck Fork Reservoir.**

Brief description of project including methods and equipment to be employed to complete the work:

A concrete spawning trap was installed on Duck Fork Creek in 2005. We would like to install another off-stream structure directly to the south of the current spawning trap. A small excavator will need to access the project site, stream crossing will be necessary since access to site is from the north. Once excavated and formed, a concrete truck will be able to pump concrete to the site. This project is off-channel and stream crossing will only need to occur with the small excavator.

Purpose (justification) of project:

The current spawning trap is not functioning as desired. Since the current structure is located on the main channel, high spring runoff is difficult to deal with. Trapping fish is not effective, and trapped fish must fight high water velocities and mortality has occurred. The new structure will have water diverted through it, thus flows will be controllable. The current structure will be blocked off during spawning and will handle the bulk of the stream flow. Fish will enter the new off channel structure and will be trapped there. Operation will occur for approximately 4 weeks during June. The structure will remain idle for the remainder of the year.

Is this a single and complete project or is part of a larger project, continuing project, or other related activities? If so, please describe the larger project or other related activities.

A spawning trap has already been installed in 2005. It was our intention not to complete further work, but modification is necessary. This project should be considered a single project.

If project included the discharge of dredged or fill material into a watercourse or wetland:

**NA.** This project is occurring on a previously disturbed upland site.

Cubic yards of material:

Acreage or square footage of waters of the United States affected by the project:

Source and type of fill material:

Length of stream that will be impacted below ordinary high water elevation:

**RECEIVED**

FEB 12 2013

WATER RIGHTS  
PRICE

*Stream Alterations*

*Recd 21 Feb 2013 : DRR*

Alternatives (other ways to accomplish project purpose):

There are really no other alternatives. We have tried several different methods over several years to get our current on channel structure to work. It has been decided that an off-channel structure is the answer.

Describe any proposed mitigation to offset impacts to the stream channel.

The stream channel will not be impacted in this project except for stream crossing during mobilization of equipment to the site.

Cultural resource impacts:

Are you aware of any cultural resources or any historic properties that will be impacted by the proposed project?  Yes  No  
If Yes, please explain:

Has a cultural resource survey been conducted on the property where the proposed project is to occur?  Yes  No  
If Yes, please briefly explain the survey results:

Two surveys have occurred and no cultural resources will be impacted. Both surveys were completed by the USFS, survey numbers: (1995) 95-FS-0575, (2001) 01-FS-0673.

List other authorizations required by Federal, state, or local governments (i.e.: National Flood Insurance Program), and the status of those authorizations.

The USFS will categorically exclude this project. This project is occurring on a previously disturbed site, and that project underwent the NEPA process in 2004. Final approval from the USFS is contingent upon securing this stream alteration permit.

Estimated starting date of project:

**AUG 15, 2013**

Estimated completion date:

**Sept 15, 2013**

#### Please complete the following checklist

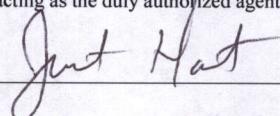
**Failure to indicate that all pertinent information has been submitted will result in your application being returned.**

- Appropriate application processing fee payment (see fee schedule below).
- A clear site location map with enough detail to easily find the site, a recent aerial/satellite image of the site, and a USGS topography map (7.5 minute quadrangle map is recommended).
- Plan view and cross-sectional drawings showing all work requiring a permit, including fills, structures, borrow sites, staging areas and storage areas. The drawings must clearly demarcate the ordinary high water mark of the waters of the U.S. to be impacted. Professional drawings are not required; however, drawings must be scaled or indicate dimensions of the work to be completed.
- A restoration plan for any areas temporarily disturbed during work, including re-contouring, revegetation with appropriate native plants and maintenance and monitoring to ensure success for the restored area.
- Ground photographs taken from various locations of the proposed disturbance area.
- Please check the box if the proposed project involves bank stabilization or protection. If so, please complete the following:
  - A narrative demonstrating the proposed activity incorporates the least damaging bank protection methods. These methods include, but are not limited to, the use of bioengineering, biotechnical design, root wads, large woody debris, native plantings, and beach nourishment in certain circumstances. If rock must be used due to site erosion conditions, explain how the bank stabilization structure incorporates elements beneficial to aquatic organisms.

- A description of current and expected post-activity sediment movement and deposition patterns in and near the activity area.
- A description of current and expected post-activity habitat conditions, including the presence of fish, wildlife and plant species in the activity area.
- An assessment of the likely impact the work would have on upstream, downstream and cross-stream properties (at a minimum the area assessed should extend from the nearest upstream bend to the nearest downstream bend of the watercourse). Specifically, discuss how the project will impact the following:
  - Will the activity accelerate deposition or erosion?
  - Will impacts to sensitive species or habitats result from a change in suspended sediment load or turbidity?
  - Will the activity affect the diversity of the channel by eliminating in-stream habitat, meanders, or gravel bars?
  - Will the activity result in a shift in the main flow patterns?
- A planting plan which involves the use of native riparian plants, unless the applicant demonstrates it is not appropriate or not practicable.

Application is hereby made for a permit or permits to authorize the activities described herein. I certify that I am familiar with the information contained in the application, and that to the best of my knowledge and belief, such information is true, complete and accurate. I further certify that I possess the authority to undertake the proposed activities or am acting as the duly authorized agent of the applicant which is a **(check one of the following) commercial , non-commercial , or governmental  entity.**

Signature of Applicant \_\_\_\_\_



Date: \_\_\_\_\_

2/14/13

I hereby certify that \_\_\_\_\_ is acting as my agent on this project.

Agent's address and telephone number: \_\_\_\_\_

### Filing Instructions

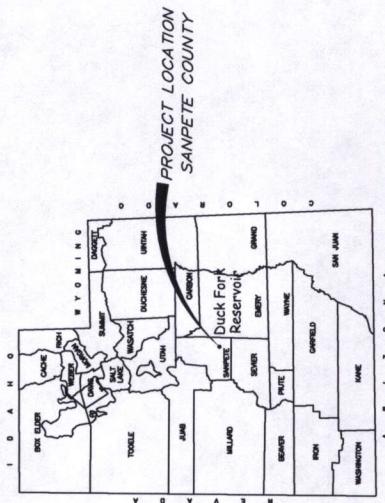
Application supplements should be submitted on paper no larger than 11 x 17 inches or alternatively as PDF format electronic files. If more than one watercourse is to be altered as a result of the project, a separate application must be submitted for each watercourse. Application fees must be received by the Division of Water Rights at the time of application submission and must be either hand delivered or submitted through standard mail.

### Application Processing Fees

Application fees are based on the type of entity applying for the proposed stream alteration project.

Commercial Entities:	\$2000.00	per application processed.
Non-Commercial Entities:	\$100.00	per application processed.
Governmental Entities:	\$500.00	per application processed.

# PLANS FOR THE CONSTRUCTION OF DUCK FORK DAM FISH TRAP DESIGNED FOR UTAH DIVISION OF WILDLIFE RESOURCES SANPETE COUNTY, UTAH



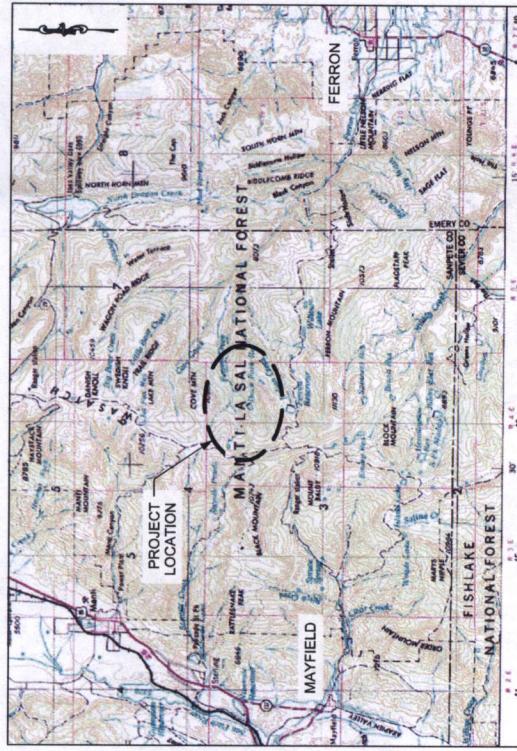
## INDEX OF DRAWINGS

- |          |   |
|----------|---|
| 1 .....  | TITLE SHEET   |
| 2 .....  | PLAN VIEW OF PROJECT  |
| 3 .....  | NEW STRUCTURE PLACEMENT                                     |
| 4 .....  | EXISTING STRUCTURE IMPROVEMENTS                             |
| 5 .....  | NEW STRUCTURE LAYOUT PLAN                                   |
| 6 .....  | SECTIONS A-A & B-B  |
| 7 .....  | SCREEN DETAIL, SECTIONS C-C & D-D                           |
| 8 .....  | SECTION E-E   |
| 9 .....  | REMOVABLE POST DETAILS                                      |
| 10 ..... | WALL POST DETAILS   |
| 11 ..... | SECTION F-F   |
| 12 ..... | STEEL GRATE SUPPORT, STOP-LOG CHANNEL & FISH SCREEN DETAILS |
| 13 ..... | HORIZONTAL BAR GRATE & WALL BRACKET DETAILS                 |
| 14 ..... | FISH SCREEN CHANNEL, FLOOR & WALL MOUNTING DETAILS          |
| 15 ..... | CENTER BAY FISH SCREEN PLATE DETAIL                         |
| 16 ..... | BRIDGE GRATING DETAILS                                      |
| 17 ..... | BRIDGE ANCHOR BRACKET DETAILS                               |
- GENERAL AND STRUCTURAL NOTES**
- Elevations shown on these drawings are based on a actual elevation of control stakes.
  - All stationing refers to centerline of construction & is the measured horizontal distance.
  - Quantities are for bid purposes only. Contractor will be responsible for furnishing & placing of all materials required to complete the permanent works.

ACCEPTED AND APPROVED BY

DATE \_\_\_\_\_

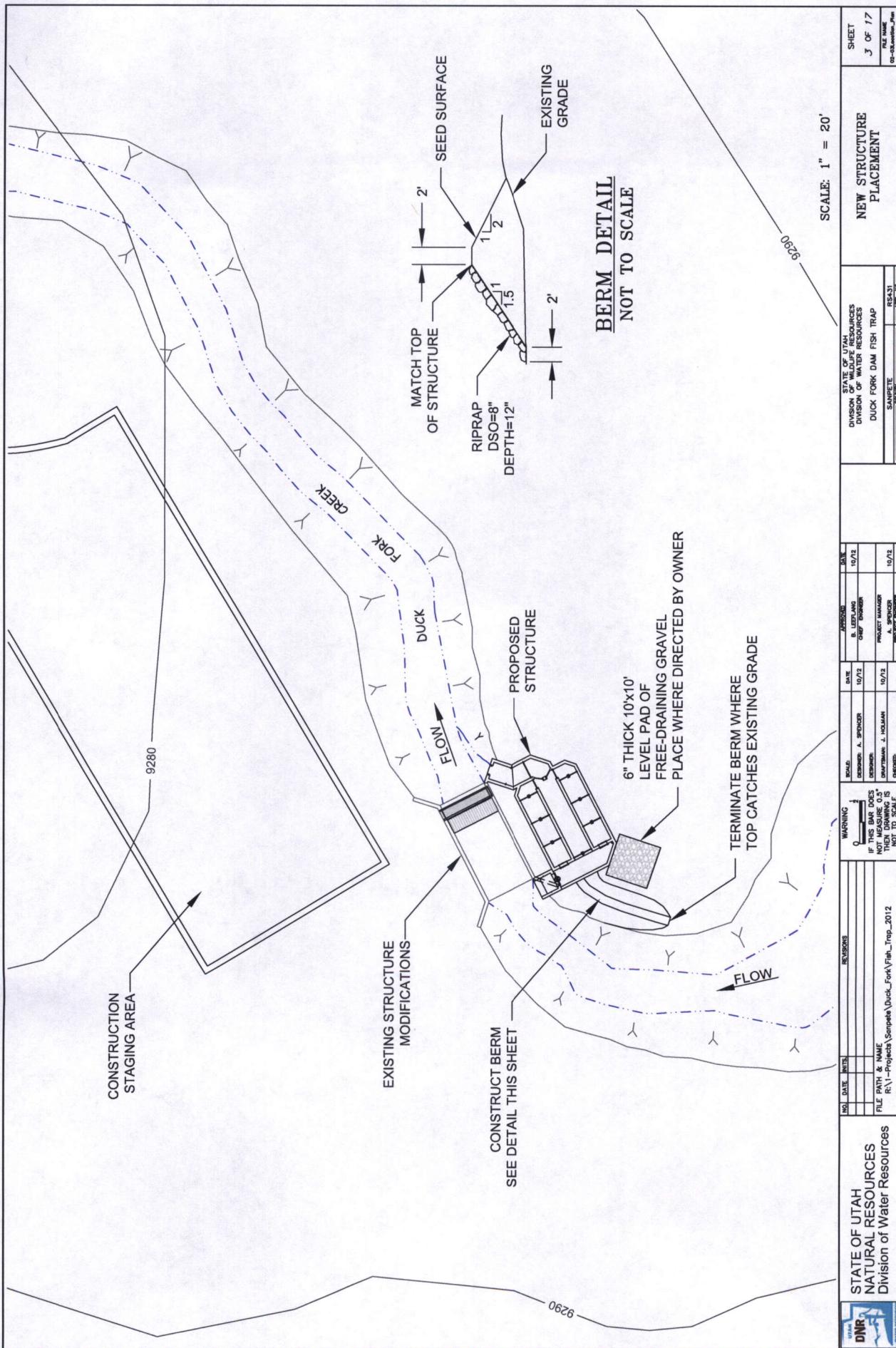
UTAH DIVISION OF WILDLIFE RESOURCES

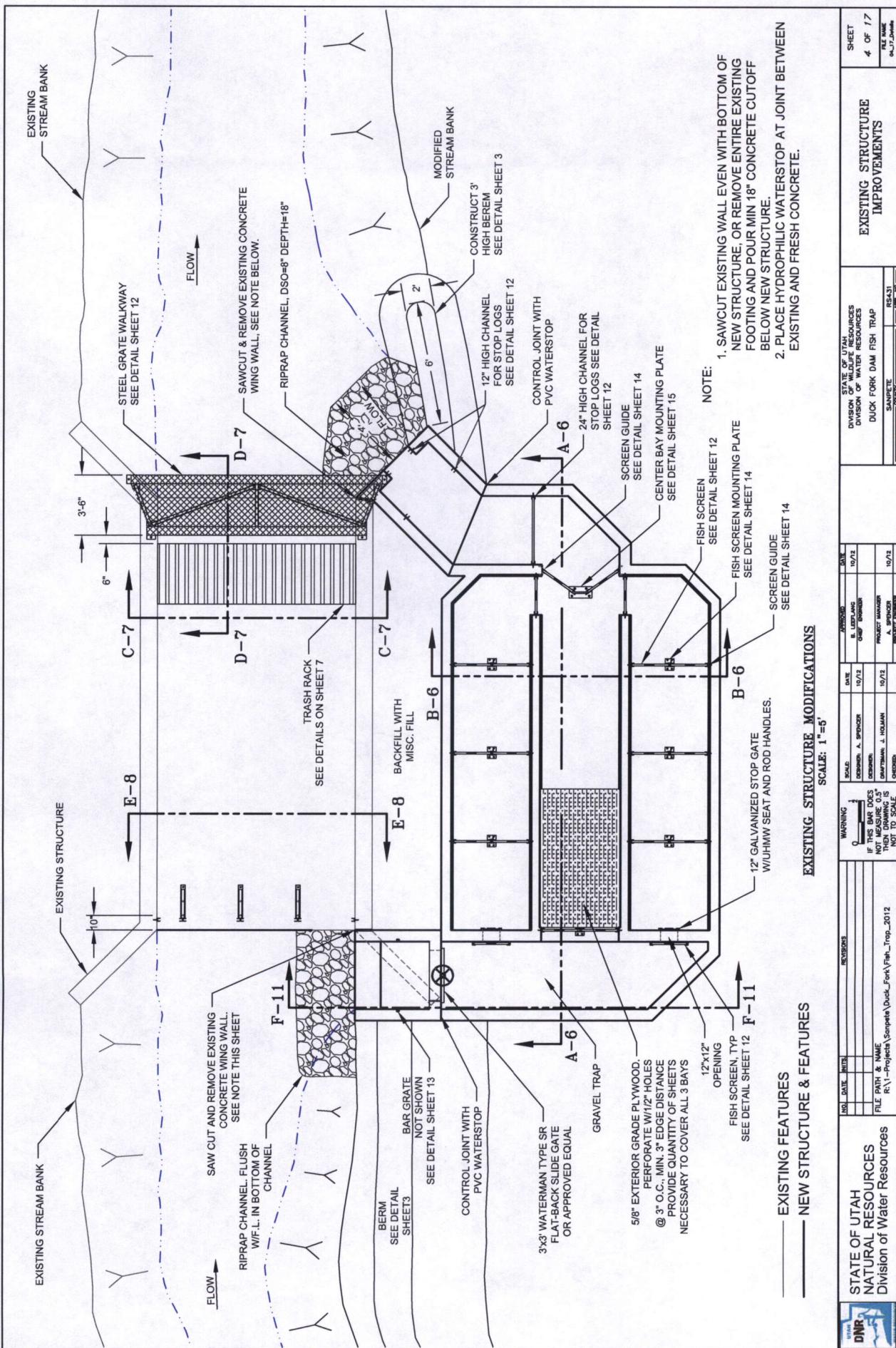


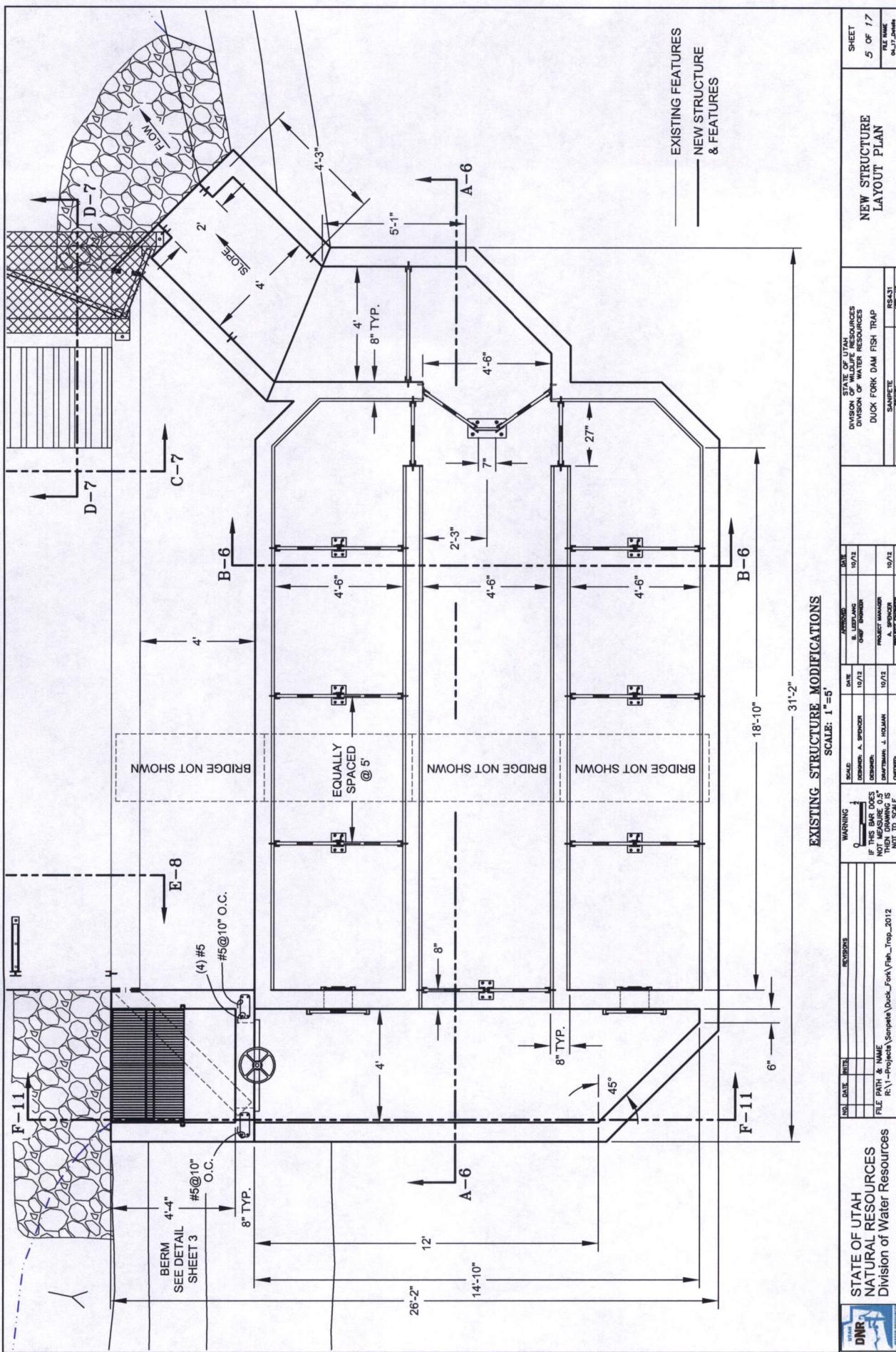
## LOCATION MAP

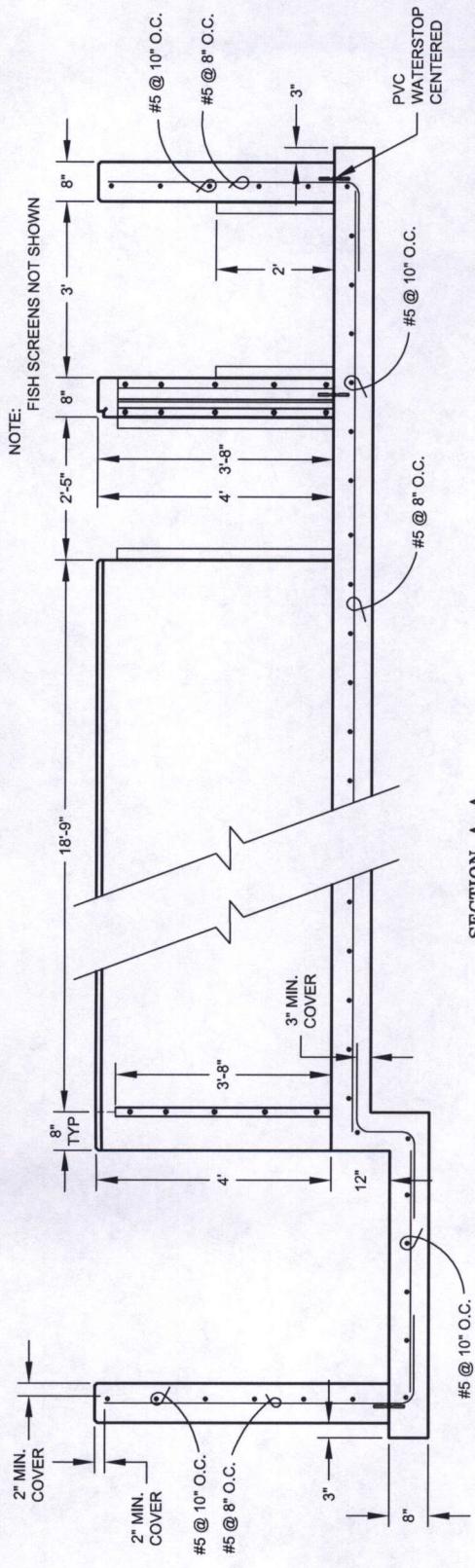
STATE OF UTAH NATURAL RESOURCES Division of Water Resources	NO. DATE FILE PATH & NAME	REVISIONS PROJECT NUMBER	WARNING IF NO DRAWINGS ARE SHOWN ON THIS SHEET, THEN DRAWING IS NOT TO SCALE	APPROVED DATE PROJECT NUMBER	STATE OF UTAH DIVISION OF WILDLIFE RESOURCES DUCK FORK DAM FISH TRAP	DATE PROJECT NUMBER	SHEET FILE NAME OR P.M. No.
STATE OF UTAH NATURAL RESOURCES Division of Water Resources	R:11-Projects/Sanpete/Duck_Fork_Fish_Trap-2012	A-1 10/12 J. HOBMAN	0 NOT TO SCALE	B. LEYLAND 10/12 CRAIG ENGLISH	10/12 PROJECT NUMBER	10/12 PROJECT NUMBER	1 OF 17 10/12 PROJECT NUMBER



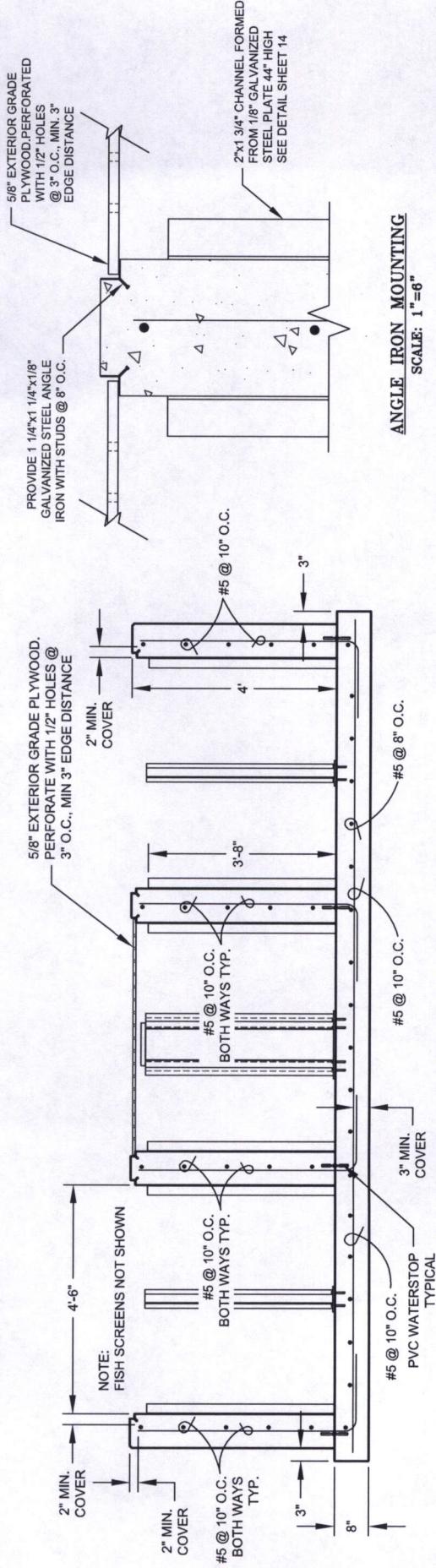






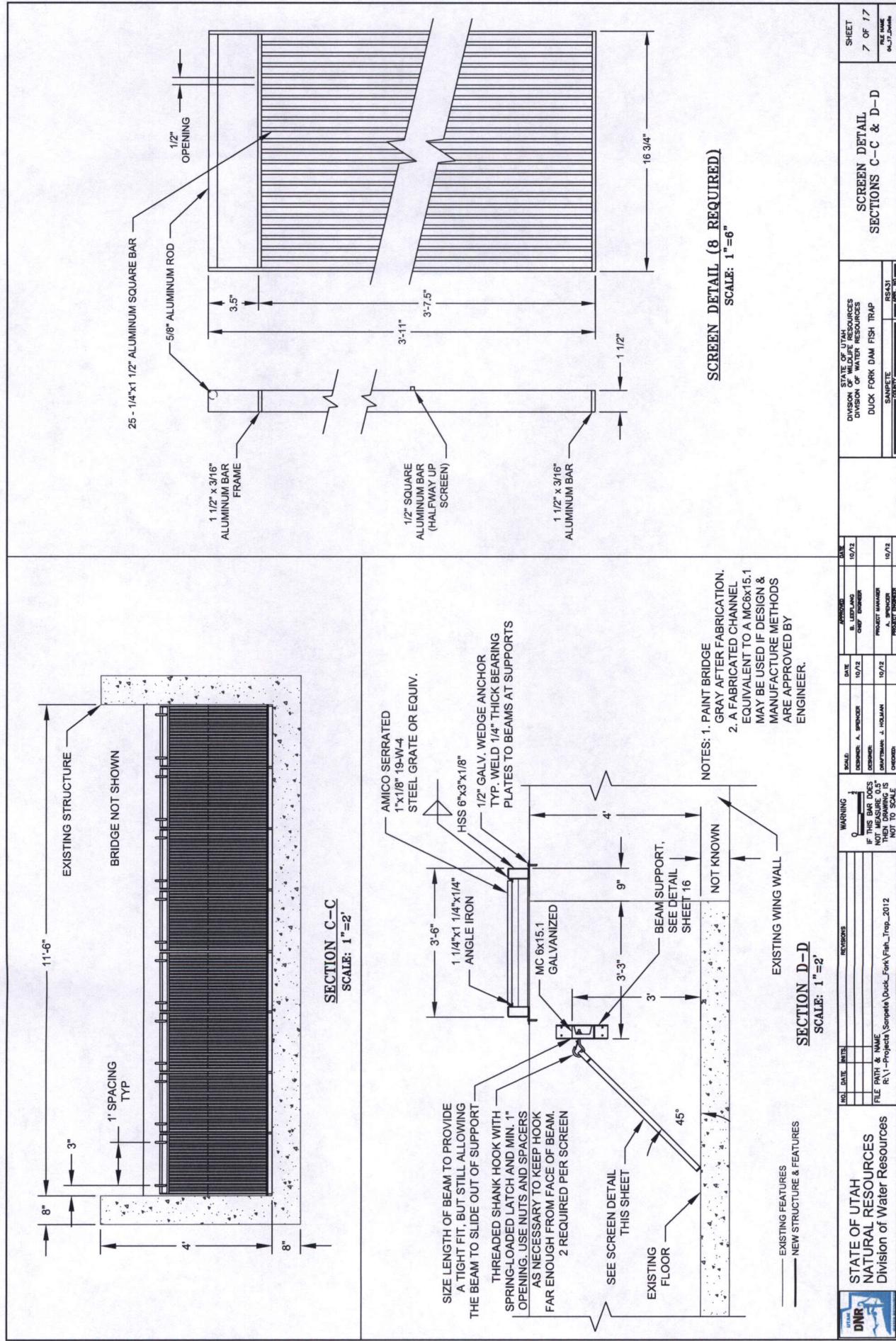


**SECTION A-A**  
SCALE: 1"=2'

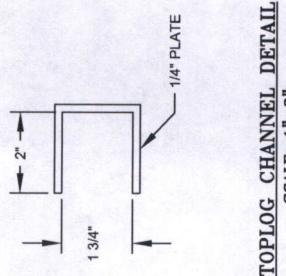
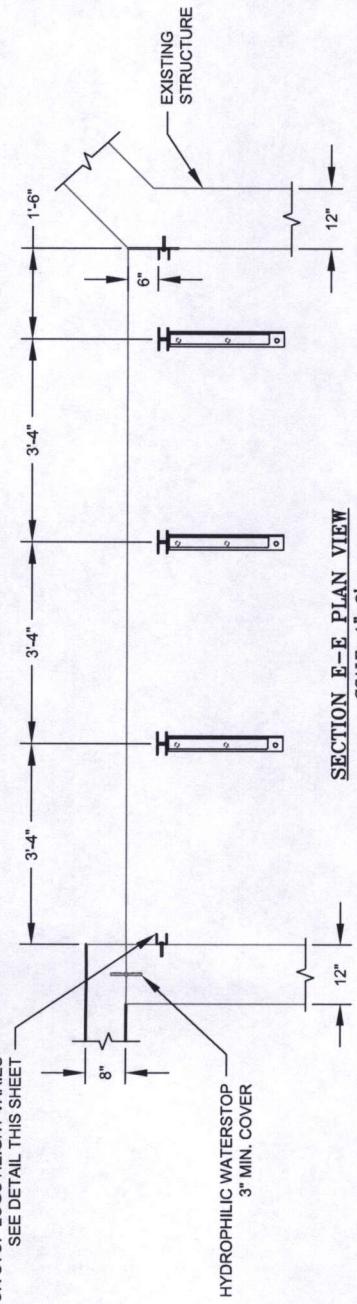


STATE OF UTAH NATURAL RESOURCES Division of Water Resources	NO. DATE	REVISIONS	STATE OF UTAH DIVISION OF WILDLIFE RESOURCES DUCK FORK DAM FISH TRAP		SECTION A-A & B-B	SHEET 6 OF 17 FILE NAME 04-17_Damite
			SCALE:	DATE:		
R:\1-Projects\Scopene\Duck_Fork_Fish_Trap_2012	10/12	A. SPENCER C. HOMAN J. HOMAN A. SPENCER J. HOMAN	10/12	10/12	SAMPLE TO SCALE	PRINTED 10/12

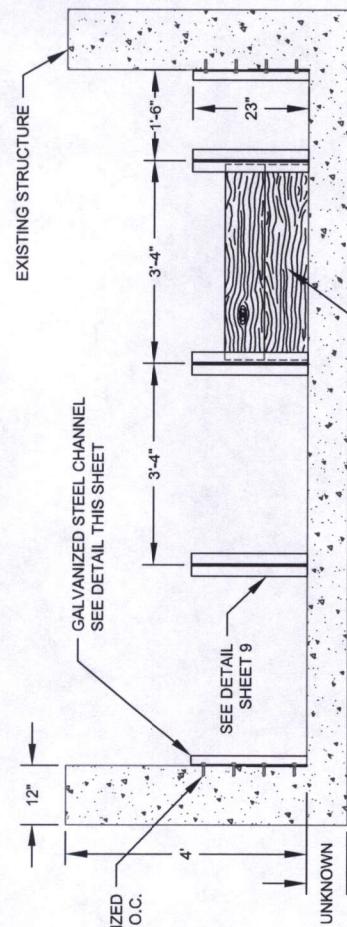




2"x1 3/4" GALVANIZED STEEL CHANNEL  
FOR STOP LOGS HEIGHT VARIES  
SEE DETAIL THIS SHEET



STOPLOG CHANNEL DETAIL  
SCALE: 1"=3"



PROVIDE 3/8" GALVANIZED  
WEDGE ANCHORS @ 6" O.C.

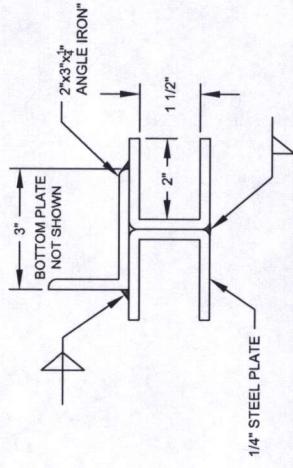
STOPLOGS, TYPICAL SUPPLY PRESSURE  
TREATED LUMBER CUT TO LENGTH  
PROVIDE (2) 2x12 AND ONE OF EACH  
SIZE FROM 2x4 TO 2x10 FOR EACH BAY

— EXISTING FEATURES  
— NEW STRUCTURE & FEATURES

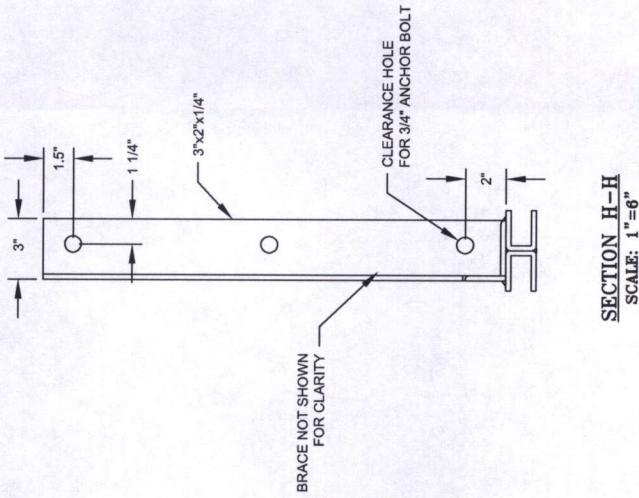
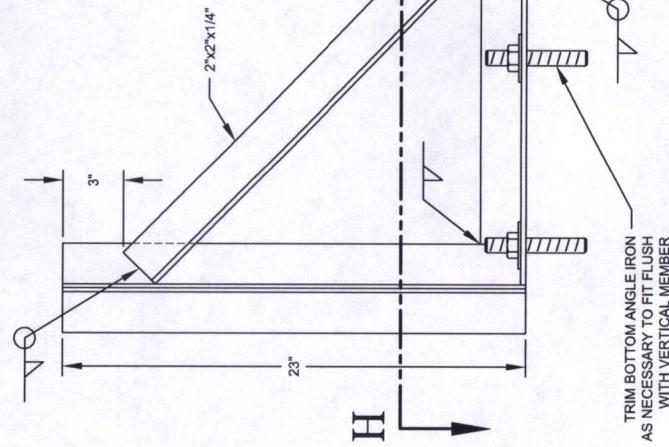
SECTION E-E  
SCALE: 1"=2'

STATE OF UTAH NATURAL RESOURCES Division of Water Resources		NO. DATE	MONTH	YEAR	APPROVED	DATE	STATE OF UTAH DIVISION OF WILDLIFE RESOURCES DUCK FORK DAM FISH TRAP		SECTION E-E, STOP LOG CHANNEL & FISH SCREEN DETAILS	SHEET 8 OF 17 FILE NAME C:\J...\Z\water
		SCALE			NUMBER:	10/12	NAME			
					NUMBER:	10/12	CAMP, SPENCER			
					NUMBER:	10/12	PROJECT MANAGER			
					NUMBER:	10/12	SPENCER			
					NUMBER:	10/12	PROJECT FISHERMAN			
					WARNING		SAMPLE			
					0		COVERAGE			
					1		FILE PATH & NAME			
							R:\1-Projects\Sampete\Duck-Fork\Fish-Trap-2012			





**H**



**REMOVABLE SUPPORT CHANNEL**  
SCALE: 1"=6"

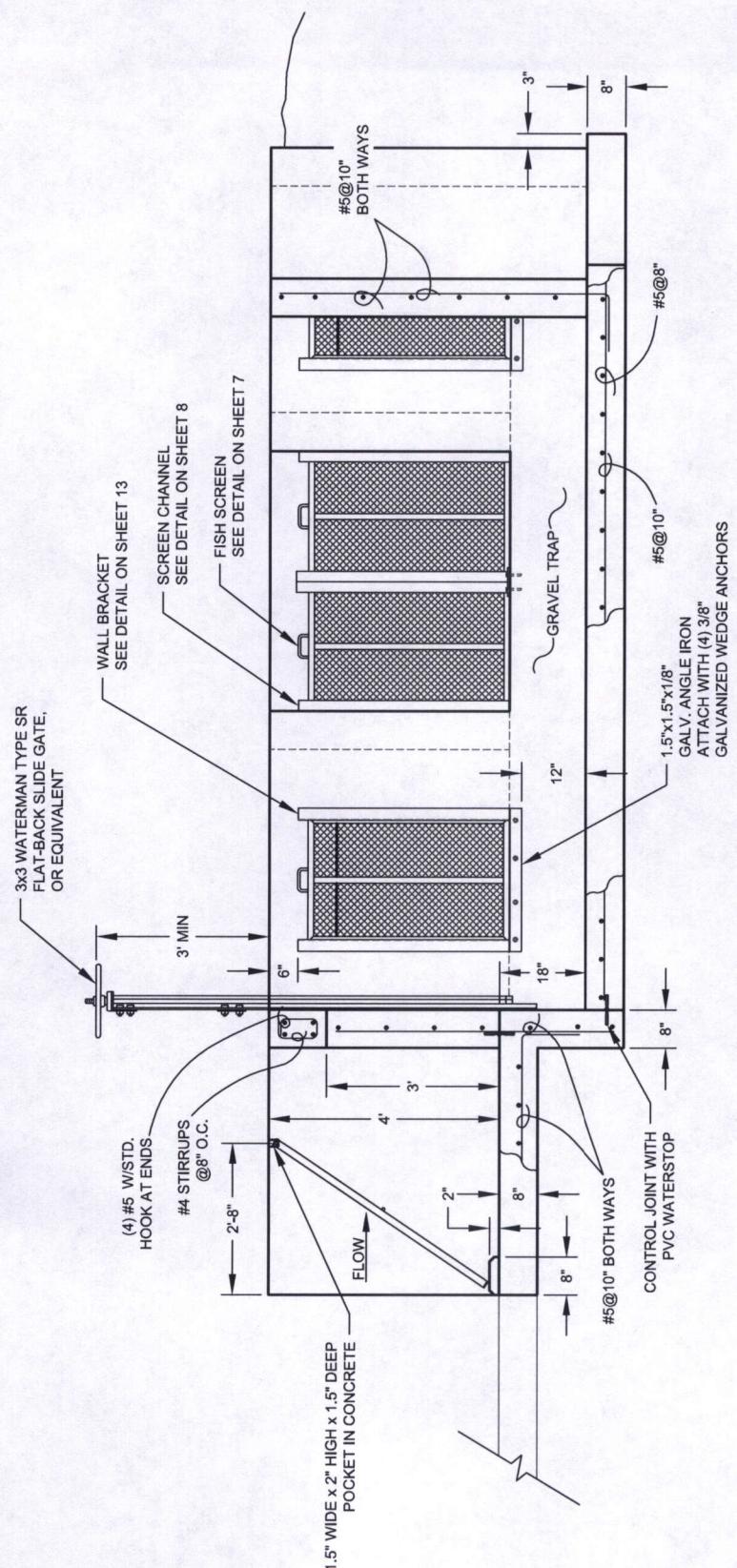
NO.	DATE	INSTRUMENT	REVISIONS	STATE OF UTAH		DIVISION OF WATER RESOURCES	DUCK FORK DAM FISH TRAP	STOPLOG SUPPORT CHANNEL DETAILS	SHEET <b>9</b> OF <b>17</b>
				ACC'D TO	REV'D BY				
	10/12			B. LIEBLANG CHIEF ENGINEER	A. SPENCER				FILE # 17-20000
	10/12			D. STRUTTMANN PROJECT MANAGER	J. HOLMANN				R54-51
									PRINTED 10/12/2012
									SP-001



SECTION H-H  
SCALE: 1"=6"

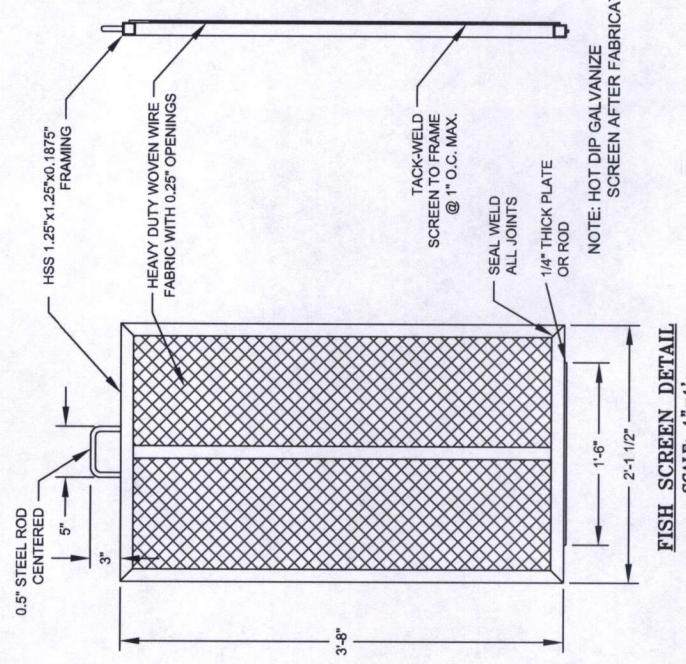
STATE OF UTAH NATURAL RESOURCES Division of Water Resources		NO. DATE, INITIALS	REVISIONS	WARNING <u>0</u> IF THIS BAR DOES NOT MEASURE 0.5' NOT TO SCALE	SCALE <u>0</u> CHIEF SPENCER	DATE 10/7/12	STATE OF UTAH DIVISION OF WILDLIFE RESOURCES DIVISION OF WATER RESOURCES DUCK FORK DAM FISH TRAP	WALL POST DETAILS	SHEET 10 OF 17 FILE NAME Duck_Fork_Trap_Sample
							A. SPENCER PROJECT MANAGER	SPENCER	
							ROBERT SPENCER CHIEF SPENCER	SPENCER	REF-431 DUC-105

WALL POST DETAIL  
SCALE: 1"=6"



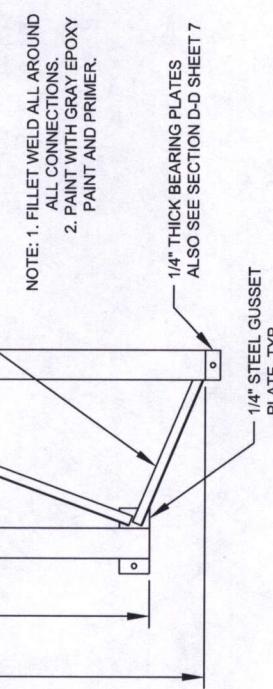
SECTION F-F  
SCALE: 1"=2'

STATE OF UTAH NATURAL RESOURCES Division of Water Resources		FILE PATH & NAME R:\V-Projects\Scopite\Duck_Fork\Fish_Trap_2012		DIVISION OF WILDLIFE RESOURCES DUCK FORK DAM FISH TRAP		SECTION F-F SCALE: 1"=2'		SHEET 11 OF 17 FILE NAME DW-17-2012	
WATER RESOURCES Division of Water Resources	DNR	WATER RESOURCES Division of Water Resources	DNR	WATER RESOURCES Division of Water Resources	DNR	WATER RESOURCES Division of Water Resources	DNR	WATER RESOURCES Division of Water Resources	DNR

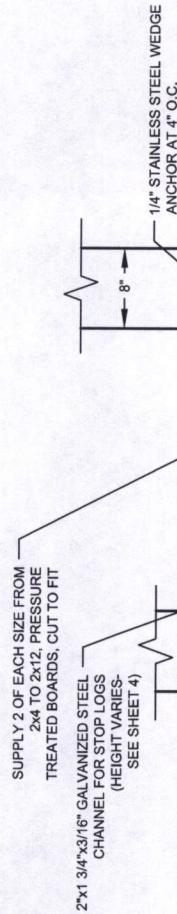


**FISH SCREEN DETAIL**

SCALE: 1"=1'



**STEEL GREAT SUPPORT DETAIL**  
SCALE: 1"=2'

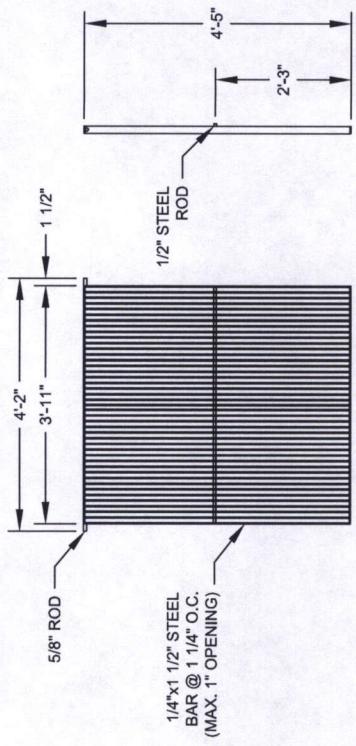


**TYPICAL STOP LOG & FISH SCREEN CHANNEL DETAIL**  
SCALE: 1"=1'

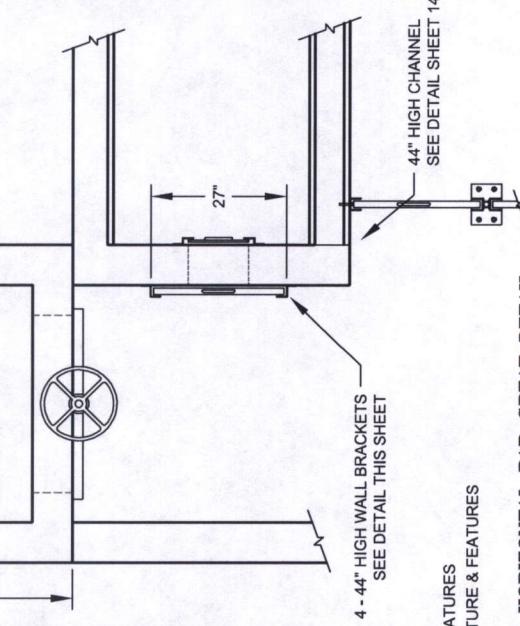
STATE OF UTAH NATURAL RESOURCES Division of Water Resources		FILE PATH & NAME R:\V-Projects\Scarpeta\DUCK_FORK\Fish_Trap_2012	WARNING IF THIS BAR DOES NOT MEASURE 0.5" THAT IS THE MAX. TO SCARF IT NOT TO SCARF IT	SECTION E-E, STOP LOG CHANNEL & FISH SCREEN DETAILS	SHEET 1/2 OF 17 Rev. 12-2006
B. LEPLAND CHIEF ENGINEER	A. SPENCER PROJECT MANAGER	10/12 10/12	10/12 10/12	R8451	10/12



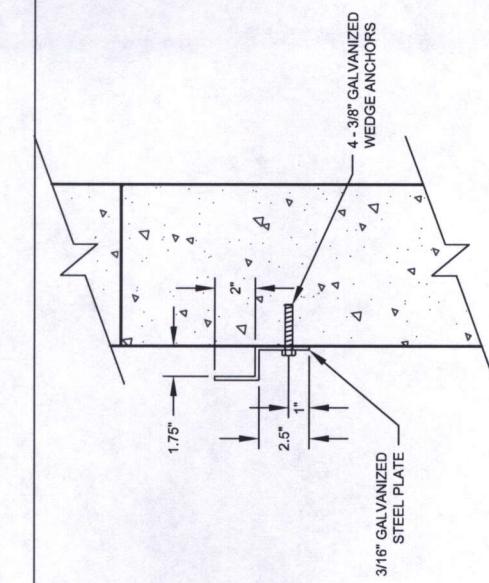
NOTE: HOT DIP GALVANIZE  
AFTER FABRICATION



**SECTION G-G**  
SCALE: 1"=2'



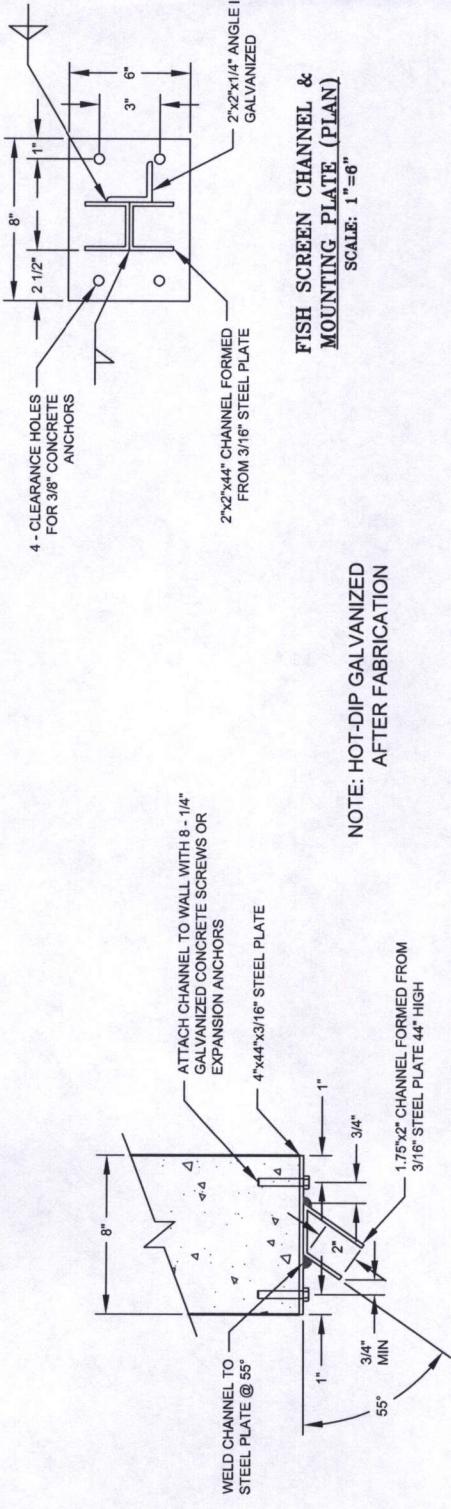
**HORIZONTAL BAR GREAT DETAIL**  
SCALE: 1"=2'



**WALL BRACKET DETAIL (4 REQUIRED)**  
SCALE: 1"=6"

STATE OF UTAH NATURAL RESOURCES Division of Water Resources	NO. DATE	REVISIONS	WARNING	STATE OF UTAH DIVISION OF WILDLIFE RESOURCES DUCK FARM DAM FISH TRAP	HORIZONTAL BAR GREAT & WALL BRACKET DETAIL	FILE NO. RIV-Projects\Sample\Utah_Farm_Fish_Trap_2012	1/3 OF 17 PAGE 1 02-17-02000
	10/12		0 IF THIS BAR DOES NOT SWING WHEN PUSHED, IT IS NOT TO SCALE.	DESIGNER: A. SPENCER DATE: 10/12 PROJECT MANAGER: J. HOLMAN PRODUCT DESIGNER: J. HOLMAN CHIEF ENGINEER: B. LIEFLAND DATE: 10/12	SAMPLETTE PRINTED 10/12	RS-531 PRINTED 10/12	

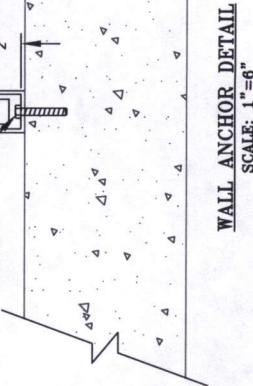
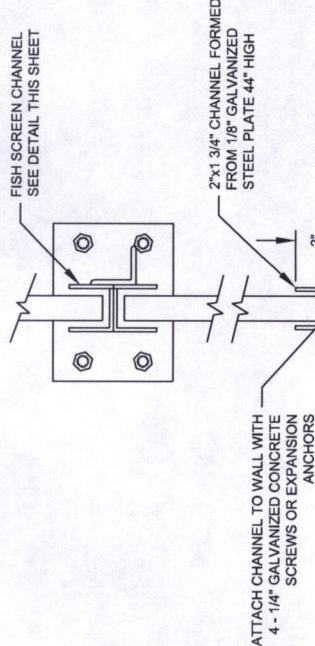




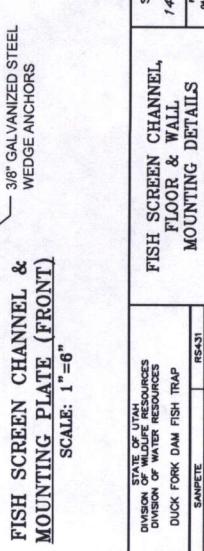
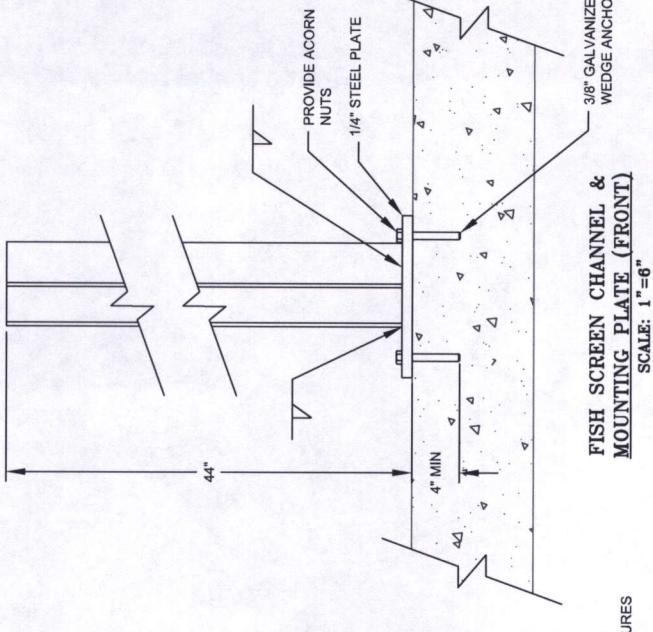
FISH SCREEN CHANNEL & MOUNTING PLATE (PLAN)  
SCALE: 1" = 6"

NOTE: HOT-DIP GALVANIZED AFTER FABRICATION

**WALL ANCHOR DETAIL (CENTER BAY)**  
SCALE: 1" = 6"

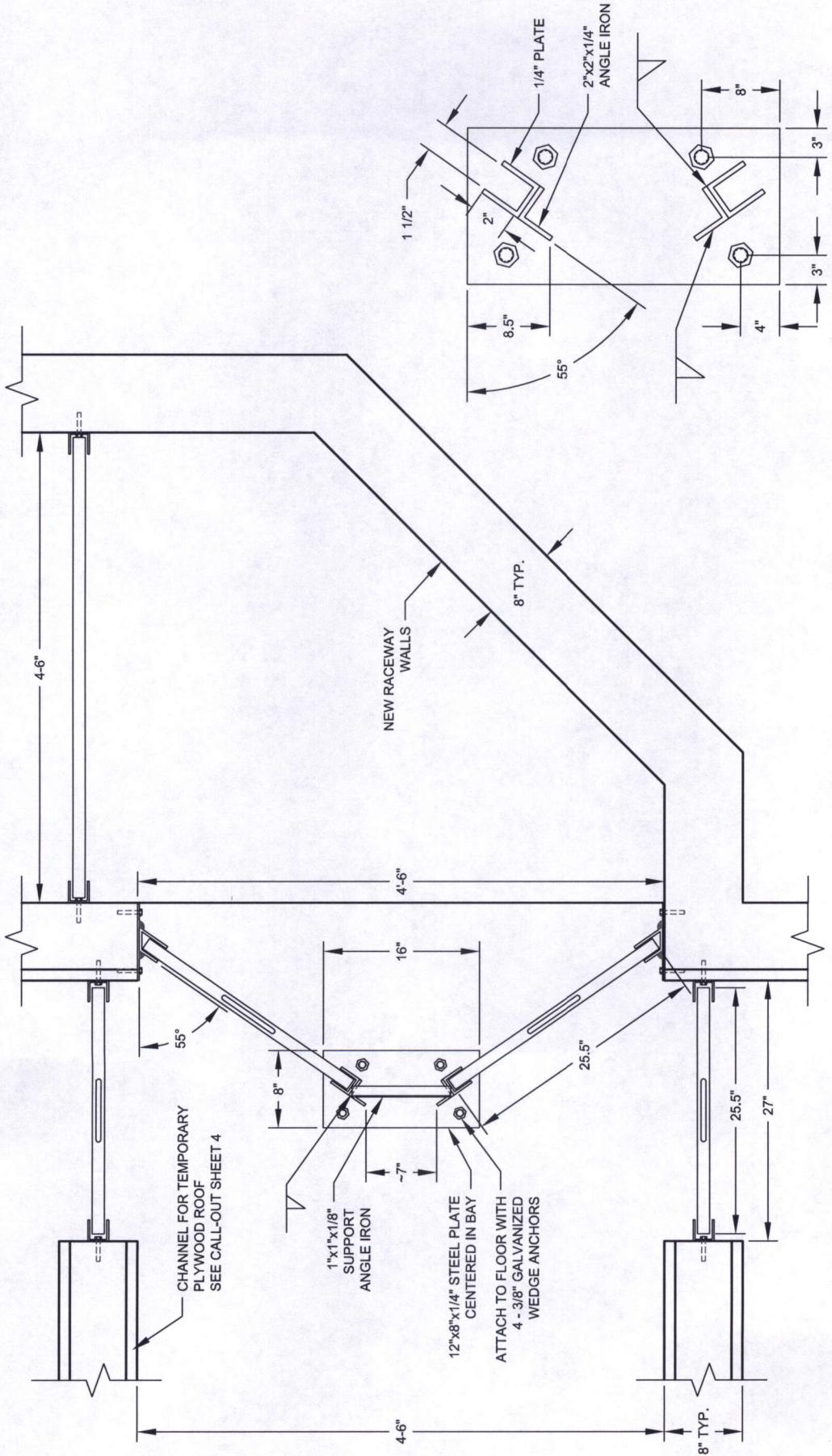


**WALL ANCHOR DETAIL**  
SCALE: 1" = 6"



STATE OF UTAH NATURAL RESOURCES Division of Water Resources	FILE PATH & NAME R:\V-Projects\Scapple\Draft_Fish_Trap_2012	STATE OF UTAH DIVISION OF WATER RESOURCES DUCK FORK DAM FISH TRAP SANDBOX	FISH SCREEN CHANNEL, FLOOR & WALL MOUNTING DETAILS	SHEET 14 OF 17 REV. DATE: 04/17/2012
A. SPENCER 10/12 PROJECT MANAGER A. VOLMAN 10/12 CHECKED	B. LEPLAND CRISP ENGINEER 10/12 REVIEWED	C. SPENCER 10/12 REVIEWED	D. SPENCER 10/12 REVIEWED	E. SPENCER 10/12 REVIEWED

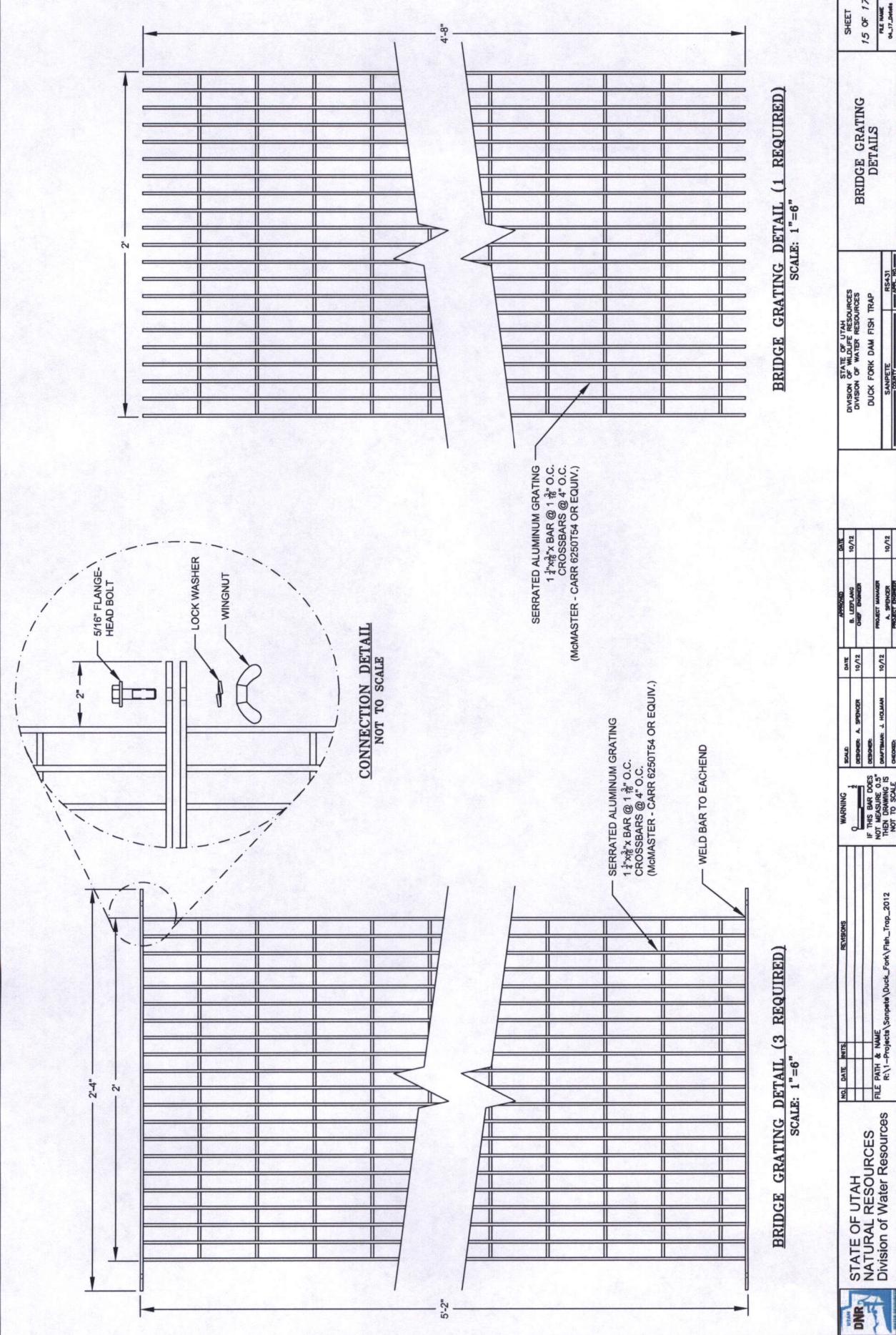


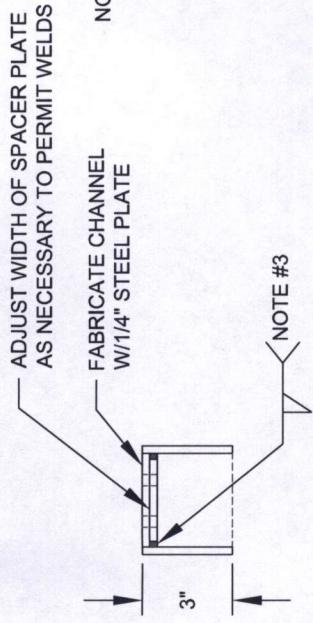


CENTER BAY MOUNTING PLATE PLACEMENT  
SCALE: 1" = 10"

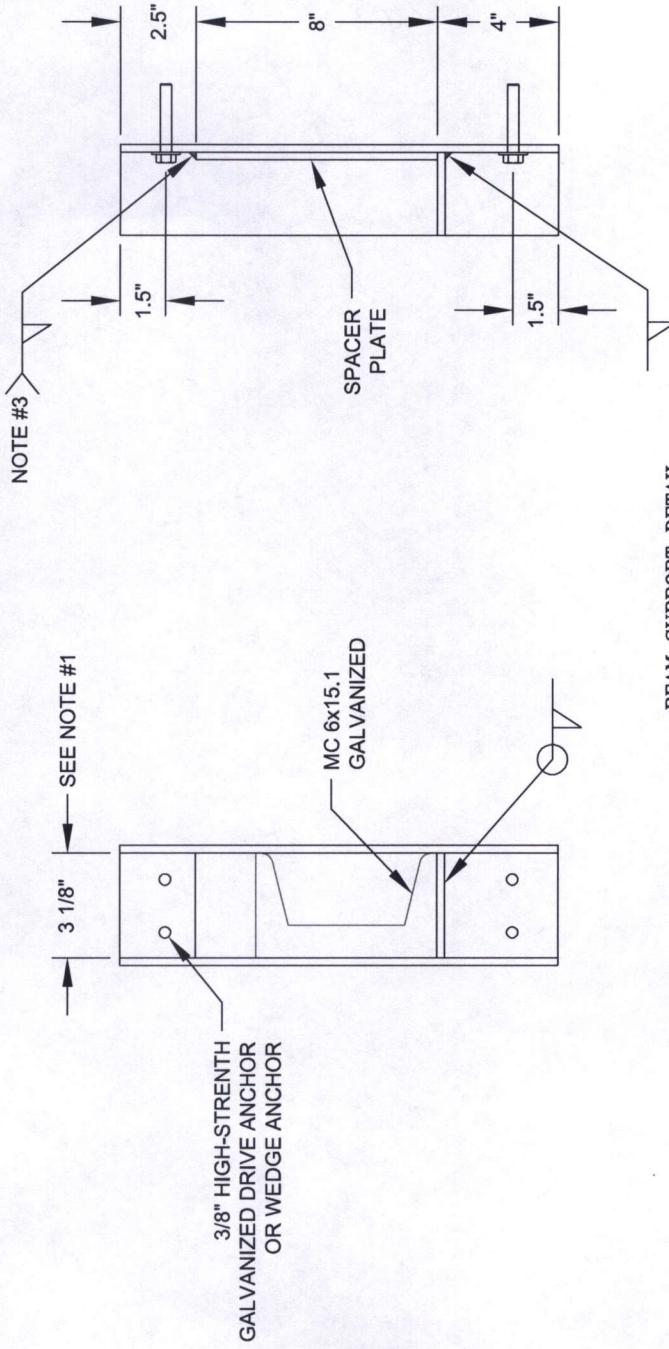
BOLT & BRACKET DETAILS  
SCALE: 1" = 5"

STATE OF UTAH NATURAL RESOURCES Division of Water Resources		NO. DATE	MONTH	YEAR	DESIGNER:	DATE:	DESIGNER:	DATE:	DIVISION OF UTAH RESOURCES DIVISION OF WATER RESOURCES DUCK FORK DAM FISH TRAP	SHEET 1/5 OF 17 FILE NAME 04-37-DamSite
		R:\Y\-\Projects\Samphire\Design\Tops\Tops_2012			0	10/12	0	10/12		
FILE PATH & NAME R:\Y\-\Projects\Samphire\Design\Tops\Tops_2012					DR. LEIF LANG A. SPENDER DRAFTSMAN: J. VOLLMAN	10/12	PROJECT MANAGER A. SPENDER	10/12		





NOTE: 1. ADJUST WIDTH AS NECESSARY TO PROVIDE PRECISE FIT FOR BEAM, BUT STILL ALLOWING BEAM TO SLIDE OUT.  
 2. GALVANIZE AFTER FABRICATION.  
 3. USE FILLET WELD ABOVE SPACER PLATE, USE COMPLETE JOINT PENETRATION WELD WITH A REAR PLATE AS BACKING ADJACENT TO SPACER PLATE.



**BEAM SUPPORT DETAIL**  
SCALE: 1" = 4"

STATE OF UTAH NATURAL RESOURCES Division of Water Resources		NO. DATE	REVISIONS	APPROVED	DATE	APPROVED	DATE	APPROVED	DATE	APPROVED	DATE	
<b>FILE PATH &amp; NAME</b> R:\1-Projects\Supply\duct\For\Tent_Trap_2012												
WARNING	1	STATE:	A. SPENDER	DATE:	B. LEFFLING	DATE:	C. HARRIS	DATE:	D. LARSEN	DATE:	E. HARRIS	
IF THIS BAR DOES NOT MEASURE 0.5" DRAFTMAN: J. VOLLMAN		DESIGNER:	DESIGNER:	10/1/12	CHIEF ENGINEER:	10/1/12	PROJECT MANAGER:	10/1/12	STRUCTURE DESIGNER:	10/1/12	STRUCTURE DESIGNER:	10/1/12

STATE OF UTAH DIVISION OF WATER RESOURCES DUCK FORK DAM FISH TRAP SANPETE	BRIDGE ANCHOR BRACKET DETAILS	SHEET 1 / 7 OF 17 FILE NAME 04-17-Dam

## **SECTION 02900 REVEGETATION**

### **PART 1 GENERAL**

#### **1.1 THE REQUIREMENT**

- A. The Contractor shall perform Revegetation for all disturbed areas, in accordance with the requirements of the Contract Documents.
- B. Contractor shall be responsible for injuries to vegetation caused by Contractor's operations, personnel, or equipment. If vegetation cannot be treated or repaired, the Contractor will be responsible for replacing the damaged vegetation. No noxious or undesirable vegetation shall be planted or introduced into the construction areas.

#### **1.2 MEASUREMENT AND PAYMENT**

- A. Payment will be made at the Lump Sum price in the Bid Schedule for Restoration and Reseeding, and shall constitute compensation for all labor, material, equipment, and all other item necessary and incidental to the completion of the work.

#### **1.3 SUBMITTALS**

- A. Product Information. Manufactures product information on fertilizer, seed mixtures, herbicide, wood fiber mulch, liquid tackifier, erosion control fabric, erosion control netting, anchorage device, straw mulch.
- B. State of Utah Department of Agriculture lab certification of seed mixes that meets Article 2.3.C.
- C. Certificates shall accompany each product delivery stating source, quantity, and type of material. All certifications shall be submitted at the time of delivery.

#### **1.4 QUALITY CONTROL**

- A. Provide seed mixture in containers showing percentage of seed mix, germination percentage, inert matter percentage, weed percentage, year of production, net weight, date of packaging, and location of packaging.

#### **1.5 DELIVERY, STORAGE, AND HANDLING**

- A. Deliver grass seed mixture in sealed containers. Seed in damaged packaging will not be accepted.

## PART 2 PRODUCTS

### 2.1 SEED MIXTURE

- A. The seeding mixture is listed in the following table. Seed mix shall be purchased by the Contractor through a supplier approved by the Engineer. Supplier approval must be received in writing from the Engineer prior to placing the seed order.
- B. All seed shall be furnished in 50 pound bags with scientific seed names, lot numbers, percent species in the mix, net weight, percent purity, germination, hard seed and maximum weed seed content. Only seed certified to meet Federal Specifications JJJ-S-181 and State Laws on noxious weeds shall be used.
- C. Seed mix Table:

Species	Seeding rate (lb/acre)
Mountain bromegrass (Bromar)	8
Slender wheatgrass (San Luis)	6
Rocky Mountain penstemon (Bandera)	2
Thickspike wheatgrass	1
Letterman's needlegrass	1
Rydberg's clover (T. Longipes)	1
Yarrow	1
American Vetch	1
<b>Total</b>	<b>21</b>

## PART 3 EXECUTION

### 3.1 SEEDING

- A. Apply grass mixture seed at rate of 21 PLS lb/acre evenly in two intersecting directions. Rake in lightly.
- B. Do not sow immediately following rain, when ground is too dry, or when winds are over 12 mph.
- C. Use appropriate erosion control materials and methods for all surfaces that are susceptible to erosion and on all disturbed slopes that are to be revegetated.

END OF SECTION